BOOK REVIEW

XYLOTOMY OF THE LIVING CYCADS by Pál Greguss pp. 260 + 950 microphotographs and 79 drawings on 185 plates, 80 text figures and a map. (Budapest: Akadeniai Kiadó 1967) $18.00.

This work is a direct continuation of the same author's monograph on the Identification of Living Gymnosperms on the Basis of their Xylotomy published in Acta Bot. Hung. vol. 10, pp. 127–144 (1964). The present work is divided into two parts. Part one deals with the Xylotomy of the trunk, first in cross-section, then in tangential section followed by characters of their radial structure. In part two it is the epidermis of the leaves which is dealt with in detail.

The most characteristic common feature of the trunks of Cycads are the well-developed pith system, the comparatively narrow conductive bundle system, the well-developed cortical zone and the mucilage canals meandering in the pith and cortex.

It is of interest also that Greguss accepts differences in the density and structure of stomata as of sufficient importance to uphold the specific status of *Stangeria paradoxa* T. Moore, as opposed to the view that it represents merely an ecological form of *S. eriopus* (Kunze) Nash.

In considering the geographical distribution of living Cycads, Greguss states that some evidence suggests the former presence of a vast Gondwanaland continent. At the same time he accepts negative evidence to disbelieve the theory of continental drift.

The present work is not without its significance in the field of paleobotany, an aspect of which is the subject of the review of the author's work on the Fossil Gymnosperm Woods in Hungary in Journ. S.A. Bot. Vol. 34, 3, p. 201 (1968). In the classification of Cycad fossils it is mainly the anatomical characters of the trunks and of the leaf epidermis which become available for study. Greguss gives several examples where the epidermal structure of living and extinct cycads is remarkably similar. Among these examples are *Encephalartos lehmannii* Lehm. from the eastern Cape Province and the fossil *Callipteris martensii*. And another example of close similarity is between *Stangeria paradoxa* T. Moore from the coastal districts of the eastern Cape and Natal and extinct species of the genus *Ctenis*.

As is his practice, the author has made full use of illustrations to support the 251 pages of text. There are no less than 950 microphotos and 79 line drawings on the 185 well reproduced plates. In addition there are 80 figures and a distribution map within the text. The text deals with all 10 genera of living Cycads and African species are particularly well represented. Thirty-one species of *Encephalartos* are dealt with including almost the full range of 26 species from South Africa, even to *E. inopinus* R. A. Dyer, published first in Bothalia 1965.

For anyone making a critical study of the Cycads of the world, or of different continents for that matter, this is an indispensible work of reference. It has particular significance for workers in southern Africa.

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